

Amendments to the Claims

Claims 1-8 (canceled).

Claim 9 (currently amended). A reagent for extraction of RNA comprising~~The reagent according to claim 8 comprising:~~

about 1% ~~Igepal~~IGEPAL[®] (tergitol);
about 100 mM EDTA;
about 0.2% SDS;
about 40% 2-mercaptoethanol; and
about 0.5% sodium azide.

Claim 10 (currently amended). A reagent for extraction of RNA comprising~~The reagent according to claim 8 comprising:~~

about 1% ~~Igepal~~IGEPAL[®] (tergitol);
about 100 mM EDTA;
about 0.02% SDS;
about 20% 2-mercaptoethanol; and
about 0.5% sodium azide.

Claims 11-24 (canceled).

Claim 25 (new). A reagent for extraction of RNA comprising:

about 0.5-3% IGEPAL[®] (tergitol);
about 0.02-0.25 M EDTA;
about 0.01-0.5% SDS;
about 1-40% 2-mercaptoethanol; and
an amount of sodium azide effective to extend the shelf life of the reagent.

Claim 26 (new). The reagent of claim 25, comprising:
about 1-2% IGEPAL[®] (tergitol).

Claim 27 (new). The reagent of claim 25, comprising:
about 0.01-0.1% SDS.

Claim 28 (new). The reagent of claim 25, comprising:
about 0.02-0.2% SDS.

Claim 29 (new). The reagent of claim 25, comprising:
about 0.5-0.2M EDTA.

Claim 30 (new). The reagent of claim 29, comprising:
about 0.1M EDTA.

Claim 31 (new). The reagent of claim 25, comprising:
about 10-40% 2-mercaptoethanol.

Claim 32 (new). The reagent of claim 25, comprising:
about 4-40% 2-mercaptoethanol.

Claim 33 (new). The reagent of claim 25 free of phenol.

Claim 34 (new). The reagent of claim 25, comprising:
about 0.5% sodium azide.

Claim 35 (new). A method for isolating RNA from plant material comprising the following:

mixing the material with the extraction reagent according to claim 25 to form an extract.

Claim 36 (new). The method of claim 35, further comprising the following:

separating cellular debris from said extract to form a clarified fraction;
organically extracting said clarified fraction to form an aqueous phase and an organic phase; and
precipitating RNA from said aqueous phase.

Claim 37 (new). The method according to claim 35, wherein the plant material comprises plant tissue, fungal mycelium or seed, said method further comprising pulverizing the tissue or seed to form a powder or paste.

Claim 38 (new). The method according to claim 36, wherein the cellular debris is removed by centrifugation.

Claim 39 (new). The method according to claim 36, wherein the organically extracting comprises chloroform extraction.

Claim 40 (new). The method according to claim 36, wherein the precipitating comprises alcohol precipitation.

Claim 41 (new). A method for isolating RNA from plant material comprising the following:

mixing the material with the extraction reagent according to claim 25 to form an extract; and
separating cellular debris from said extract to form a clarified fraction.

Claim 42 (new). The method of claim 41, further comprising the following:
binding said RNA to a solid matrix.

Claim 43 (new). The method according to claim 42, wherein said binding preferentially binds mRNA.

Claim 44 (new). The method according to claim 42, further comprising eluting said RNA from said solid matrix.

Claim 45 (new). A method for isolating RNA from plant material comprising:
exposing a plant material comprising a plant tissue, fungal mycelium or seed to the reagent of claim 25 to permit cytoplasmic RNA to extract from cells or cell debris of said plant material; and
separating said cytoplasmic RNA from said cells or cellular debris.

Claim 46 (new). The method according to claim 45, wherein the separating includes filtering or straining.

Claim 47 (new). The method according to claim 45, wherein the separating includes precipitating RNA and collecting the precipitate.

Claim 48 (new). A kit for extracting RNA comprising one or more of the following components:

- one or more RNA extraction reagent according to claim 25;
- one or more RNase free wash reagents;
- one or more tissue filters; and
- one or more RNase free sample holding tube.

Claim 49 (new). The kit according to claim 48, further comprising:
components for organic extraction of said RNA.

Claim 50 (new). The kit according to claim 48, further comprising:
an RNase free matrix for binding RNA.